

### **REMARKS**

The Official Action mailed January 23, 2004, has been received and its contents carefully noted. Filed concurrently herewith is a *Request for Two Month Extension of Time*, which extends the shortened statutory period for response to June 23, 2004. Accordingly, the Applicant respectfully submits that this response is being timely filed.

Claims 1-33 were pending in the present application prior to the above amendment. New claims 34-41 have been added to recite additional protection to which the Applicant is entitled. Accordingly, claims 1-41 are now pending in the present application, of which claims 1-4, 21, 22 and 38 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

The present invention is directed to a method of making a light-emitting device wherein an organic EL material contained in an evaporation cell is evaporated to form a pattern of a light emitting layer over a substrate (claims 1 and 2) or to form a light emitting layer selectively over a pixel electrode (claims 3 and 4). Thus, in accordance with the present invention, a pattern of a light emitting layer can be directly formed over a substrate or pixel electrode using evaporation. This simplifies the pattern formation process since no mask is required, reduces waste of expensive EL materials by minimizing the deposition amount, and evaporation can be performed using small EL molecules.

Claims 2 and 4 further recite a step of placing in a reaction chamber an evaporation cell containing an organic electroluminescence material and placing a shutter above an orifice of the evaporation cell. Claims 3 and 4 recite selective formation of a light emitting layer. Further, independent claims 21 and 22 include the features of claims 1 and 2, respectively, and further include the feature of "moving the evaporation cells and the substrate relative to each other during the heating step."

Paragraph 5 of the Official Action rejects claims 23 and 24 as failing to comply with the written description requirement. Specifically, the Official Action asserts that the

specification does not provide support for moving the evaporation cell during the heating step. In response, claims 23 and 24 have been amended to remove the limitation of "during the heating step" and now simply recite that the evaporation cell is moved as disclosed on page 5 of the specification, which is believed to be fully supported by the specification as filed. Reconsideration is requested.

Paragraph 7 of the Official Action rejects claims 1-8 and 13-16 as obvious based on the combination of U.S. Patent No. 5,902,688 to Antoniadis et al. and U.S. Patent No. 6,049,167 to Onitsuka et al. The Applicants respectfully traverse the rejection because the Official Action has not made a *prima facie* case of obviousness.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims. Antoniadis may broadly disclose deposition of an EL material using evaporation in Fig. 10, but does not appear to specifically disclose the

formation of a pattern over a substrate, as now claimed. Onitsuka appears to be cited merely for the teaching of an inert gas atmosphere and does not overcome this deficiency in Antoniadis. Also, claims 3 and 4 recite that an organic EL material is formed selectively over a pixel electrode. This feature also does not appear to be disclosed or suggested by Antoniadis or Onitsuka, taken alone or in combination.

Since Antoniadis and Onitsuka do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Paragraph 8 of the Official Action rejects dependent claims 9-12 as obvious based on the combination of Antoniadis, Onitsuka and U.S. Patent No. 5,945,967 to Rallison et al. Paragraph 9 of the Official Action rejects dependent claims 17-20 as obvious based on the combination of Antoniadis, Onitsuka and U.S. Patent No. 5,534,314 to Wadley et al. Paragraph 10 of the Official Action rejects claims 21-24 as obvious based on the combination of Antoniadis, Onitsuka and U.S. Patent 6,495,198 to Peng. Paragraph 11 of the Official Action rejects claims 21-22 and 31-33 as obvious based on the combination of Antoniadis, Onitsuka and U.S. Patent 6,537,607 to Swanson. Paragraph 12 of the Official Action rejects claims 23-24 as obvious based on the combination of Antoniadis, Onitsuka, Swanson and U.S. Patent 5,921,836 to Nanto. Paragraph 13 of the Official Action rejects claims 25-28 as obvious based on the combination of Antoniadis, Onitsuka and U.S. Patent 4,672,265 to Eguchi.

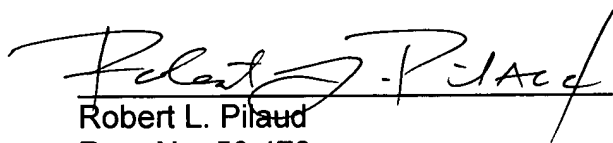
It is respectfully submitted that none of Rallison, Wadley, Peng, Swanson, Nanto, or Eguchi cure the deficiencies in Antoniadis and Onitsuka and that these rejections are overcome for the same reasons as noted above.. The Official Action relies on Rallison to allegedly teach EL displays for video camera displays (page 3, Id.) and on Wadley to allegedly teach evaporation at atmospheric pressure (page 4, Id.). Antoniadis, Onitsuka, Rallison and Wadley, either alone or in combination, do not teach or suggest heating an organic electroluminescence material in an inert gas atmosphere to form a

light emitting layer on a substrate comprising the organic electroluminescence material. Since Antoniadis, Onitsuka, Rallison, Wadley, Peng, Swanson, Nanto, and Eguchi do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

New claims 34 and 35 further define over Antoniadis and Onitsuka by reciting that the pattern is directly deposited from the evaporation cell. New claims 36 and 37 recite that the pattern is formed without the use of a mask. Finally, new independent claim 38 recites an evaporation cell having an orifice like ejecting port adapted to directly deposit a pattern of a light emitting layer over a substrate. New dependent claims 39-41 further define the invention of claim 38. New claims 34-41 are believed to be allowable over the prior art of record for at least the reasons noted above and favorable consideration is requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,



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